11. Electrical Properties and Auger Analysis of Al_2O_3-Native Oxide-InP Interfaces

AUTHOR(S):

福田, 充広

CITATION:

福田, 充広. 11. Electrical Properties and Auger Analysis of Al_2O_3-Native Oxide-InP Interfaces. 物性研究 1986, 46(5): 763-763

ISSUE DATE:

1986-08-20

URL:

http://hdl.handle.net/2433/92212

10. $Fe_xCo_{1-x}Si$ の磁化と強制体積磁歪

細 井 敦 夫

遍歴電子強磁性体の一つである $Fe_xCo_{1-x}Si$ について，磁化測定及び強制体積磁歪の測定を行なったところ，

(1) 自発磁化の温度変化は Stoner モデルより SCR 理論の方がよい記述を与える，

(2) キュリー温度以上の強制体積磁歪は磁化の自乗にほぼ比例し，

大きな磁気体積結合係数が得られた。

11. Electrical Properties and Auger Analysis of Al_2O_3-Native Oxide-InP Interfaces

福 田 充 広

The interfacial properties of both Al-Al_2O_3-native oxide-InP MIS diodes and Al-Al_2O_3-InP MIS ones are investigated by using capacitancevoltage method and Auger electron spectroscopy. Native oxide is fabricated intentionally by employing the oxidation process with HNO_3 at 75°C under illumination and the Al_2O_3 film is obtained by electron beam evaporation of sapphire. The pinning position of surface Fermi level for the diode with intentional native oxide is different from that for the diode without intentional native oxide. In the former diode, phosphorus penetrates deep inside the oxide layer and in the latter, the indium deficient region exists just adjacent to InP bulk. The origin of surface stages which cause the difference in Fermi-level pinning position is discussed on the basis of the results of Auger Analysis.